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13. ABSTRACT (Maximum 200 Words) Breast cancer is the second leading cause of cancer mortality for women in Tennessee and throughout the United States. Recent studies reported a decline in breast cancer mortality for US women. However, this trend is not evident for underserved populations. Breast cancer death is most preventable when diagnosed at its earliest stages. Regular mammography can detect cancer at early stages. Although, the utilization of mammography increased, it continues to be underutilized by underserved women.			
The purpose of this study is to test the effectiveness of a stepwise intervention to overcome barriers to screening in underserved women age 40 years and above enrolled in a statewide Managed Care Organization.			
Preliminary results show a significant improvement on mammography screening rates for the complex intervention over the simple one. A positive trend in the complex intervention group over the usual care group, was observed. It was not significant likely due to small sample. The use of telephone for contacting this subjects was not feasible. Chattanooga data suggest a positive trend in favor of the complex intervention. It may be concluded that home visit is a labor intensive form of intervention, but useful for reaching underserved populations for cancer prevention and control.			
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Nasar Ahmed 10/21/99

PI - Signature

Date

Table of Contents

Introduction.....	5
Body.....	5
Purpose of Research.....	5
Technical Objectives.....	6
Hypothesis.....	6
Research Design.....	6
Intervention.....	6-8
Results.....	9
Interim Analysis of Claims Data.....	9
Randomization.....	10
First Prompter Letter Mailing.....	10
MCO Claim Data Analysis.....	10
Second Prompter Letter Mailing.....	10
Training Workshops.....	11
Home Visits.....	11
Claim Data Analysis.....	12
Analysis and Publication.....	12
Key Research Accomplishments.....	13
Reportable Outcomes.....	13
Conclusions.....	14
References.....	15-16
Appendix.....	17-50

INTRODUCTION:

Breast cancer is the second leading cause of cancer mortality for women in Tennessee and throughout the United States (ACS 1999). Recently, studies have shown a decline in breast cancer mortality for US women, however, this trend is not evident for underserved populations (2). Research suggests that this decline is the result of both early detection and timely treatment when the cancer is localized, and adjuvant treatment of women at high risk for recurrence of their cancer and metastasis after primary treatment (3-8). Mortality from breast cancer is most preventable when diagnosed at its earliest stages. Regular Mammography can detect cancer at early stages. Mammography is the only screening test to be demonstrated by prospective clinical trial to decrease cancer mortality (11-13). Although there has been a significant increase in the utilization of mammography, it continues to be underutilized by minority, poor and elderly women (15-17). A lack of adherence to breast cancer screening guidelines is a serious problem for these women because of barriers which seem to relate to their socioeconomic status and age level. The purpose of this study is to test the effectiveness of a stepwise intervention model to overcome barriers to mammography screening in low income women enrolled in a statewide Managed Care Organization (MCO). The study includes underserved women age's 40 years and above whom are members of Tennessee Managed Care Network in two geographical locations in the State. It is expected that the approach, if found to be effective, will become a model for similar groups elsewhere.

BODY:

This section describes the purpose, goals, objectives, hypothesis and research design of the project and follow by accomplishments, problems encountered and solutions sought in this reporting period.

Purpose of Research

Our research is to ultimately reduce the morbidity and mortality of breast cancer among the population of low income women who have incomes less than 200% of the national poverty level. Our strategy is to compare the effectiveness of a relatively simple technique to a more complex intervention to reach and effect a significant change in the behavior of the subjects. We hope that this approach will become a model for similar groups elsewhere.

The goals of this project are twofold:

- (a) To increase breast cancer screening and early detection by mammography in low income women, forty years of age and above, who are enrolled in a statewide MCO-using a culturally sensitive "step-wise" approach; and
- (b) To increase the number of early breast cancers detected - at a time when they are most curable - and to reduce the number of advanced cancers detected so as ultimately decrease breast cancer morbidity and mortality.

Technical Objectives

1. To institute a culturally sensitive stepwise intervention to overcome barriers to screening in low income women.
2. To compare the stepwise intervention to a simpler intervention.
3. To document and evaluate the process and outcome results of various screening approaches used to reach this population.

Hypothesis

The study seeks to test three hypotheses:

- a. **H1** A culturally appropriate, step-wise, in-reach intervention which addresses knowledge, attitudinal and logistical barriers will increase mammography utilization in a low-income managed care organization at least 20% over a usual care group from the same MCO.
- b. **H2** An intervention involving a simple reminder letter will increase mammography utilization 10% over a usual care group.
- c. **H3** A culturally appropriate, step-wise, in-reach intervention which addresses knowledge, attitudinal and logistical barriers will increase mammography utilization in a low income managed care organization at least 10% over a simple reminder letter.

Research Design

From the medical claims database of Access MedPLUS, data have been reviewed to identify female enrollees 40 years and older who are eligible for inclusion in the study. Selection criteria include: those without a claim for a mammogram in the previous year (for those 50 years old or older) or the previous 2 years (for those 40 to 49 years old). These have been randomly assigned into one of three groups. Thus the research design is a randomized trial with three groups (a control group and two intervention groups). Subjects were selected using a Stratified Random Sampling Scheme. Stratification was done to make groups homogenous in terms of age, race and county of residence.

Intervention

- a. **Experimental Groups:** The three experimental groups are characterized as follows:
 - (i) **Group I (Usual Care)** does not participate in interventions initiated by this project.
 - (ii) **Group II (Simple Intervention)** receives usual care plus a prompter letter stating the need for annual mammograms.

(iii) **Group III (Complex Intervention)** receives usual care plus a prompter letter followed by a reminder letter followed by phone calls, then interactive group sessions, then home visits.

b. **Intervention Procedures**

All experimental groups will have barriers removed to differing extents. All groups will benefit from the resources provided by the MCO. Barriers will be addressed by the intervention program. How barriers are handled within each experimental group is described below.

(i) **Barriers Removed by Usual Care from TMCN**

Lack of Knowledge: TMCN distributes a newsletter every month to providers and members. The newsletter features different awareness campaigns at the discretion of the editor.

Access to Services: TMCN provides transportation to members for services, as needed. TMCN also has special training for lay health outreach workers within low income housing projects.

Availability of Services: TMCN stresses to its provider membership that breast cancer prevention and control procedures be instituted for all clients as a part of physical assessment. Lay health outreach workers will facilitate follow-up visits as scheduled by primary care physicians or as needed.

Cost of Services: TMCN reimburses up to \$66 for mammograms.

Culture: TMCN Lay health workers are former welfare recipients recruited from low income projects and undergo a 5-month training program.

Physician Attitudes: These will be affected via TMCN newsletter awareness campaigns.

(ii) **Barriers Removed by First Level Experimental Intervention Groups II & III**

Lack of Knowledge:

Brochures beyond Newsletter letter from MCO Medical Director

Reminder letter (physician office mailing)

All other barriers addressed by Usual Care (i) above

(iii) **Barriers Removed by Intensive Intervention (Group III)**

Lack of Knowledge: Contact and Counseling by CHOWs

Access to Services:

Distribution of transportation vouchers routinely for visit to providers and for mammograms;

Priority Appointments;
Reminder letters and telephone counseling

Availability of Services: A tracking system to facilitate follow-up visits; combined with reminder letters, telephone calls and home visits.

Culture:

Training lay health outreach workers intensively on cultural sensitivity;
Using familiar sites for special program activities e.g. churches, clinic sites;
Developing culturally-sensitive information at the appropriate literacy levels to overcome culturally-induced attitudes of fear, inertia, self medication, hopelessness;
Apply individually - appropriate counseling.

Physician Attitudes:

Design special education sessions to improve attitudes
Designing a reminder system for physicians
All other barriers addressed by (ii) above

RESULTS:

Table 1 summarizes the activities by task proposed in the statement of work. The approved task in the statement of work is listed (in bold), followed by a description of the research accomplishment associated with said task.

1. Interim Analysis of Claims Data.

Accumulated claims data for Nashville up to December 1998, were analyzed. We received claims data every three months from the MCO. Figure 1 shows the percent of subjects who received mammography screening per group. The largest number, 59 (14.3%) mammograms were recorded for the complex intervention - Group III and the smallest, 35 (8.5%) for simple intervention Group II. The number for Group I was 47 (11.3%).

A χ^2 test was performed to assess any significant difference overall and between the groups. There is a significant ($P=0.03$) difference found among the groups. There is no significant difference between Group I and Group II. However, a significant difference is found between Group II and Group III ($P=0.008$). Group III had a higher screening rate than Group I, but the difference is not significant ($P=0.16$).

Contact Difficulties: Since MCO is a partner in this study, we had anticipated that we would have easier access to their membership. However, we have found that it is often quite difficult to contact members of this population who are underserved. We have also discovered that the MCO personnel themselves have difficulty reaching many of the members and as many as 40% of members do not keep appointments with their primary care physicians as scheduled.

Most of these women do not have telephones. Moreover, often when CHOWs make visits, subjects may have moved or may be working. Most persons on public assistance are now required to work under the state's Family's First Program, making it more difficult to contact them if they have no telephone.

The investigators have written one manuscript entitled "Difficulty in Reaching Low Income Women for Screening Mammography". Based upon evaluation of the process and experience gained on the baseline survey of the population, this manuscript has been submitted for publication in the "Journal for Health Care for the Poor and Underserved" and is now in press (see appendix). The authors discuss problems encountered in attempting to contact the targeted women. The findings provide insights for future program planning and research design.

Problems encountered by the project include difficulty in reaching women in group III by CHOWs; resulting in a small sample size and a smaller number of screening mammograms claims filed. This sample is not large enough to have a statistical power to detect the true effect of the intervention, if any.

To overcome these problems the project was expanded to include additional 1,139 women from the Chattanooga area. This site is situated 125 miles south east of Nashville, and is the fourth largest metropolitan area in the state. African Americans make up 19 percent of the population compared with 20% for Nashville Davidson. The median income is comparable for the two cities and TennCare eligibility requirements are the same. The number of TennCare enrollees covered by TMCN are similar for the two cities.

2. Randomization

In Chattanooga, each subject was assigned to one of three groups as was previously done in the Nashville area. Subjects were first sorted by county, race and age. Then a stratified random sampling method was used to ensure the homogeneity between groups. There was a total of 1,139 subjects, 379 were assigned to group I, 380 to group II and 380 to group III.

3. First Prompter Letter Mailing

The first prompter letter was mailed October 1999 . This letter (see appendix), sent under the signature of the Access MedPLUS Medical Director, encouraged the designated patients in groups II and III to call their primary care physicians and schedule appointment to have their mammograms performed.

The only problem encountered was that there was a slight delay due to a change in the personnel of Access MedPLUS Medical Director. The originally signed letter was replaced with the signature of the newly appointed Medical Director. It is not possible to anticipate this type of change without notice from the MCO. Therefore, for future efforts it would be a good idea to alert the MCO in advance that if there are changes such as this personnel change that the project would need to be kept informed of.

4. MCO Claim Data Analysis

Three months after the prompter letter was sent, claims data were requested and obtained from the MCO. The claim report showed that 45 subjects received a mammogram. Of these, 12 (3.2%) were from the control group (group I), 16 (4.2 %) were from simple intervention, and 17 (4.5%) were from complex intervention. These data indicate a positive trend in favor of a complexity of the intervention.

5. Second Prompter Letter Mailing

Second prompter letter (see appendix) mailing was sent under the signature of the Access MedPLUS Primary Care Physicians (PCP) to whom women from group III had been assigned. This letter served as the second reminder that the patients needed to call and get their mammogram appointment scheduled.

The coordination of this task was more difficult than experienced during the intervention in Nashville because the distance from the project made it impossible to follow up in person. Only one clinic responded by sending their materials and signed letter on time. This delay from the primary care physicians nearly doubled the amount of time necessary to get all of the second prompter letters mailed.

The Regional Coordinator/Supervisor for the Community Health Outreach Workers agreed to go in person and follow up with the PCPs to collect the signed letters and mailing materials. This was very effective and all but four letters were successfully mailed. Two of the PCP's who had two patients each declined to participate.

6. Training Workshops

Two training workshops were held to prepare the Tennessee Managed Care Outreach Workers (CHOWs) to conduct the final phase of the intervention which consisted of home visits and telephone counseling with group III only. Originally there were plans to only hold one training workshop. This workshop which originally would have been held in the Spring of 1999 was rescheduled for December of 1998 due to the anticipated scheduled medical leave of the Health Education Coordinator. However, due to the additional time it took to get the second prompter letters prepared and mailed it became necessary to provide a second training workshop refresher which was held in July 1999 immediately before the implementation of the final phase of the intervention. The training involved a total of eight Community Health Outreach Workers. The training focused upon the research design of the intervention. A form was provided for them to complete during each outreach attempt. The form served two purposes; to ensure that each outreach activity and outcome would be documented and to serve as a reminder to the CHOWs to provide each designated patient information on breast health and mammography screening guidelines. Eight breast models were provided to be used as needed during home visits and a brief video was shown to provide an overview of screening guidelines for mammography screening, clinical breast examination and breast self examination.

During the training workshop in July 1999 it was reported by the CHOWs that they had experienced problems with long periods of delay (as much as 3 to 4 months in some cases) with getting women in to have their mammogram test. After further inquiry it appeared that this problem was primarily being caused because the majority of patients were being sent to Erlanger Hospital instead of using other available FDA approved mammography facilities.

The CHOWs were initially encouraged to have the patients to request a facility which would be able to schedule an appointment within two weeks. The Health Education Coordinator provided the CHOWs staff with a listing of the FDA approved mammography sites in their community to assist them with informing their patients. But during the intervention period, the CHOWs reported back that they were not experiencing problems getting their patients scheduled for their mammogram appointments as previously reported. No further follow up was provided.

7. Home Visits

During this reporting period, the final phase of intervention which involved Home Visits and Telephone Counseling to subjects assigned to group III were conducted and completed in Nashville – Davidson County as of September 1998. In Chattanooga – Hamilton County, these visits are currently being conducted.

Table 2 summarizes the results of these outreach activities. As shown, 55 subjects were successfully reached. Of these, 26 agreed to have a mammogram and 10 stated that they have had a recent mammogram. Ten subjects responded that they were not interested. The rest of those reached expressed a lack of or a low level of interest by giving several reasons for not having a mammogram such as not being with the MCO anymore, too busy to get a mammogram, afraid of discussing the issue, and more.

For those who have not been reached, the majority (118) were not at home each time the outreach worker visits. Other reasons for not being reached include having moved, not answering either the telephone or the door when the outreach worker knocked, wrong addresses, no physical address, residing out of territory, language barriers, wrong telephone number, telephone disconnected or changed to unlisted, and miscellaneous other reasons.

In Chattanooga, the effort is still going on. So far, a total of 67 subjects have been successfully reached. Of these, 17 stated that they have had a recent mammogram, 29 agreed to have a mammogram and only 4 stated that they were not interested. Those among the subjects reached who expressed a lack of or a low level of interest stated similar reasons as for those in the Nashville area.

Investigators and MCO staff have developed strategies to increase the rate of contact with the subjects. These have included changing hours of work for some CHOWs to early evening and Saturdays.

8. Claim Data Analysis

Three months after the primary care physicians letter, a new set of claims data was obtained. Its analysis shows that 29 (7.6%) new claims in Group I, 30 (7.9%) new claims in Group II, and 36 (9.5%) new claims in Group III were added to the number of complaints identified after the prompter letter was sent. Figure 2 shows that the cumulative number for both first and second intervention became 41 (10.8%) in Group I, 46 (12.1%) in Group II, and 53 (14%) in Group III. The result shows a trend toward the effectiveness of the intervention over no intervention control group.

9. Analysis and Publication

From survey data already collected, one article has been completed and is in press; two articles are in progress. Analysis of one article entitled, "Barriers to Access and Utilization of Mammography Among Underserved Population" is completed and preparation for submission is in progress. This article focuses on the classification of their barriers, its relationship with socio-demographics and knowledge level and its effect on the screening behavior. Second article is on "Knowledge, Attitude and Practices of Breast Cancer Screening and its analysis is currently ongoing. Two more articles are anticipated from the final data yet to be collected.

KEY RESEARCH ACCOMPLISHMENTS:

- Preliminary assessment of the intervention effect based on interim analysis of claims data in Nashville area is completed.
- Expansion of the intervention to Chattanooga to increase statistical power to detect a true effect of the intervention if any.
- Subjects are selected and divided into three groups using stratified random sampling process.
- Implementation of first two steps of the intervention process is completed.
- Eight community outreach workers are trained and retrained for the final step of the intervention.
- The implementation of the final step of the intervention is partially completed and is in progress.
- Analysis of survey data for “Barriers to Access and Utilization of Health Care” article is completed.
- Analysis of survey data for KAP article is ongoing.

REPORTABLE OUTCOMES:

- An article entitled, “Difficulty in Reaching Low Income Women for Screening Mammography” is submitted for publication and is now in press in the “Journal for Health Care for the Poor and Underserved” .(see appendix)
- Article on “Barriers to Access and Utilization of Mammography Among Underserved Population” is completed and preparation for submission is in progress
- Eight community outreach workers were trained to overcome difficulties in reaching underserved women for Breast Cancer screening efforts.
- Analysis of Baseline Survey Data on “Knowledge, Attitude and Practices of Breast Cancer Screening” is partly completed.

CONCLUSIONS:

The lessons learned from the Nashville site of the project is that the home visit component of the intervention model does show a significant promise as an effective method to reach underserved women for health issues. Our study population is different from other groups who may be covered by insurance systems or managed care companies previously reported on in the literature. The circumstances surrounding the socioeconomic status of these women make it difficult to contact them for intervention. This requires extra effort and innovation.

Preliminary assessment of the effect of this intervention in Nashville shows that there is a significant improvement on mammography screening rates for the complex (including home visits) intervention group over the simple (first prompter letter only) intervention group. While, there is a positive trend of improvement for the complex intervention over the usual care (control) group, it does not reach statistical significance. This may be due to the lack of statistical power of small number of subjects reached as a result of contact difficulties. The contact difficulties include (1) not at home, (2) no physical address, (3) wrong address, or (4) having moved. In order to increase the power to detect a true effect of the intervention a new similar site, Chattanooga, was added to double the study population.

It was discovered that the use of telephone as a means of contacting this study populations was not feasible. This is partly because the vast majority of the subjects did not have a telephone. Attempts to contact those subjects who have telephones have proven ineffective. On occasion when a subject was successfully reached by telephone, the response to the intervention was generally negative. This may be due to the fact that the telephone is far less personal and not conducive to discuss of intimate health issues.

Early assessment of Chattanooga data suggests a positive trend in favor of the complex intervention. It may be concluded that while home visit outreach is a labor intensive form of intervention, it is a useful method for reaching what the National Cancer Institute defines as a "hard to reach population" for cancer prevention and control. This model may be strengthened by allowing more time for the home visit component of the intervention. A follow up mechanism must be instituted to ensure that once the subject agrees to have her mammogram, that the test is quickly scheduled and the appointments are kept.

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APPENDIX:

Table 1 Summary of the Activities by Task Proposed in the Statement of Work

Table 2 Intervention Activity-Chattanooga Hamilton Count (Home Visits & Telephone Counseling)

Figure 1 Percent of Women Completed Mammography Screening in Nashville

Figure 2 Percent of Women Completed Mammography Screening in Chattanooga

Letter from MCO - Medical Director

Letter from Primary Care Physician

Agenda for CHOWs Training Workshop Chattanooga, TN

Brochure

Intervention Script

Intervention Guidelines & Procedures

Member Outreach Activity Form

Manuscript: Difficulty in Reaching Low Income Women for Screening Mammography

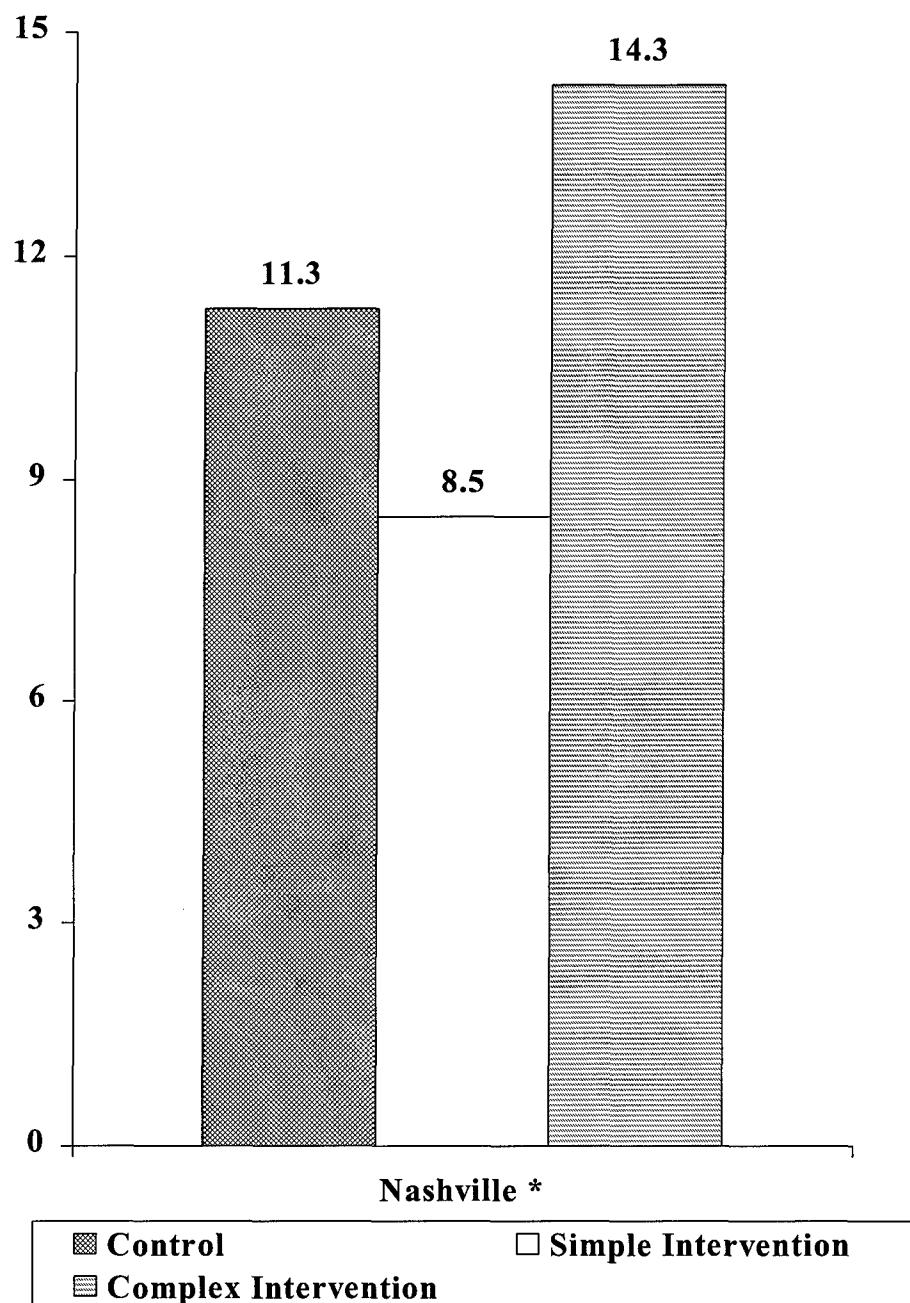
Table 1: Summary of the Activities by Task Proposed in the Statement of Work

	Proposed Task	Proposed Date	Actual Date	Accomplishment	Problem(s) Encountered	Solutions
1	Interim analysis of claims data after stepped intervention	Month 19	Month 27	Analysis completed	Sample size is not large enough to have a statistical power to detect the effect of the intervention	Expansion of the intervention to Chattanooga, Tennessee
2	Selection of Chattanooga women and Randomization into Groups I, II, III.	Month 24		With the approval of the extension of the intervention outreach into the Chattanooga community the data was collected and randomized into three groups comparable to group profiles utilized in the Nashville community.		
3	First prompter letter mailing over the signature of MCO Medical Director - Groups II & II Chattanooga women	Month 25		The 1st prompter letter was successfully mailed under the signature of the MCO Medical Director.	Due to the appointment of a new MCO Medical Director, it was not possible to utilize the previously signed letter used during the Nashville intervention.	The new MCO Medical Director was recruited to participate in this effort by way of a newly signed prompter letter which replaced the old prompter.
4	MCO Claims Data Analysis	Month 28	Month 29-30	Chattanooga Claims Data obtained and analyzed	Delay in receiving data due to the change of the computer system for claims data management	The situation is expected to return to normal for the next claims data request
5	Second prompter letter mailing to Chattanooga women; Group III	Month 28	Month 29-32	All but four of the patient's were mailed the second prompter letter under the PCP signature.	This activity took a longer period of time than expected due to a slow turn around of materials received from the PCPs.	The Chattanooga TMCN Regional Coordinator agreed to personally follow-up with the local PCPs to expedite the receipt of their signed letters and mailing materials for the second prompter letters.
6	Training Workshops for Chattanooga CHOWs	Month 31	Month 28 and Month 34	The training was successfully completed.	Medical leave of the health education coordinator	Adjustment of the timeline to the earlier period than that on schedule
7	Group III Intervention - home visits; counseling of women by CHOWs	Month 31-32	Month 34-36	The retraining of the community outreach Workers was successfully completed	There was a long delay between the original training and the completion of the home visits	The training was repeated
8	Claims Data Analysis	Month 31	Month 33-34	Intervention based on home visits and counseling activities in progress	The delay of the letter of intervention from primary care providers affected the the beginning period of home visit activities	The manpower hours were increased to expedite the completion of home visit activities
9	Analysis of Data, Writing and Publications of Results	Month 38-40 ongoing	Month 38 and ongoing	Chattanooga Claims Data received in office. Partial analysis following the PCPs invitation letter	Noticed some missing complaints from the previous claim data. These claims would not reflect results from the second step of intervention because the second mailing intervention took longer than expected	Add the missing members to the new data. Wait for the claims data from the period covered by the intervention to get into the system
					Final data yet to be collected due to the expansion of the intervention to Chattanooga	Articles in progress

Table 2: Intervention Activity-Nashville vs. Chattanooga Home Visits and Telephone Counseling

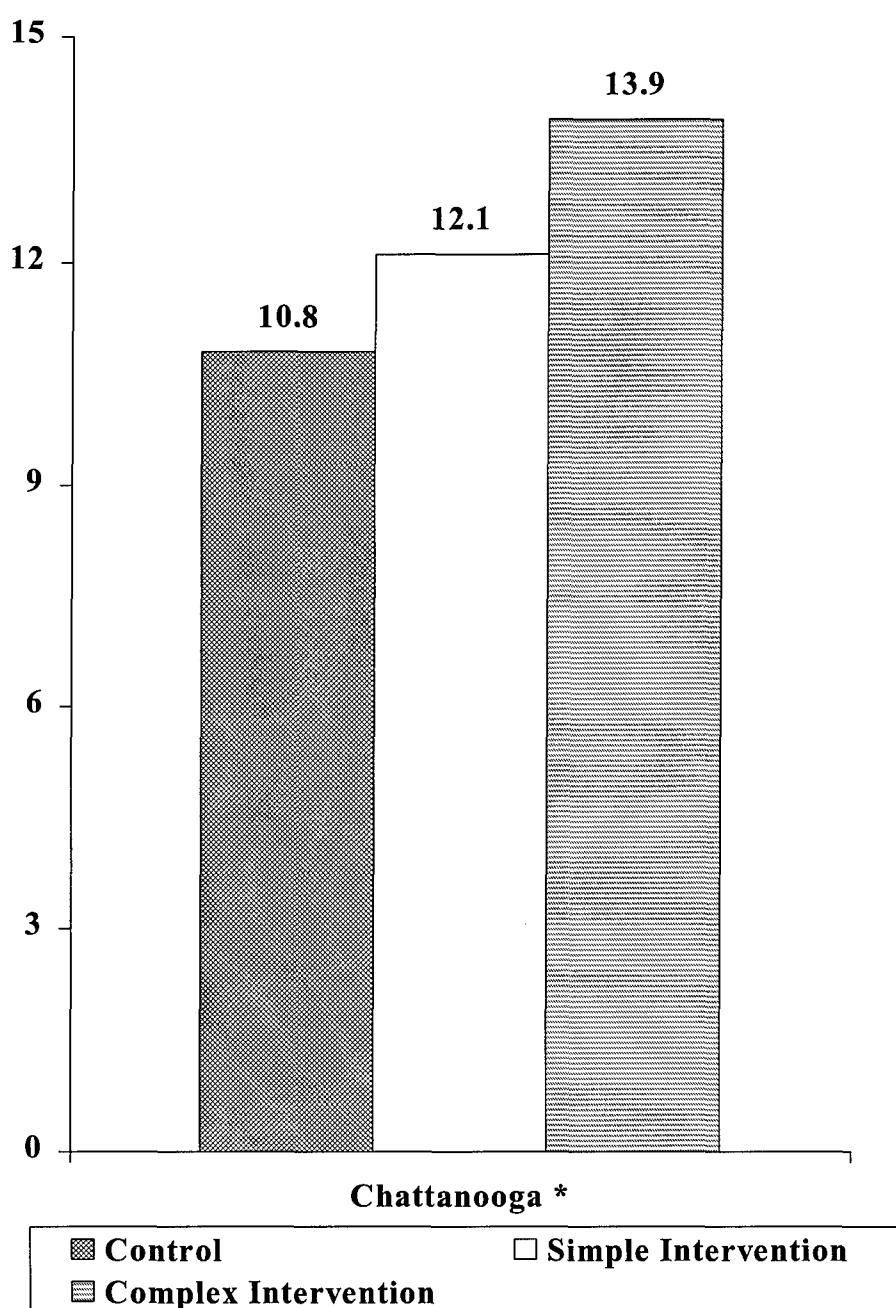
Subjects Reached	NASHVILLE		CHATTANOOGA	
	Sep - Nov 1998	Jul - Sep 1999	By Home Visits	By Phone
Agreed to Mammogram	26	29		
Recently Had Mammogram	9	17		
No Longer with MCO Provider	1	10		
Sick/Caring for Sick		1		
Too busy to get Mammogram	2	1		
Not Interested	10	4		
Afraid to Discuss	6	5		
Other	1	0		
Total Subjects Reached	55	67		
Unsuccessful Attempts				
No Answer	23	10	30	
Moved	24		23	
Wrong Address	5		13	
Not Home	118	4	33	
No Physical Address	35		11	
Out of Territory	32		0	
Deceased	2	1		
Language Barrier	2	5	0	
Wrong Tel#		5	5	
Tel# Disconnected		7	6	
Tel# Changed to Unlisted		3	0	
Total Unsuccessful Attempts	241	34	111	11
SubTotal Attempts	296	34	178	11
Total Combined Attempts	330		189	

Fig. 1
Percent of Women Completed
Mammography Screening in Nashville



each group: * n = 415

Fig. 2
Percent of Women Completed
Mammography Screening in Chattanooga



each group: * n = 380



This letter is written to encourage you to participate in breast health care. Having a mammogram (x-ray of the breast) is an important part of good breast care.

Your doctor will check you and order a mammogram. The purpose of doing the mammogram is to help to find a small lump if there is one. Some lumps may be too small for you or your doctor to feel. While most lumps are not cancerous, a few are. For those which are, finding cancer early may save your breast and your life.

One in nine American women will get breast cancer at some point in their lives. The chances of getting it increase with age.

The American Cancer Society recommends:

- 1) women between ages 40-49 should have a mammogram every 1 to 2 years**
- 2) women age 50 and above should have a mammogram every year**

Access... **MedPLUS** has made funds available so that your doctor can order this test at no cost to you. The results will be returned to your doctor and an appointment will be made to discuss the results with you.

Wellness is the aim of Access...**MedPLUS** and the doctors who are a part of the network. We will continue to provide services to promote your good health.

Sincerely,

Patricia A. Weaver, M.D., MSPH
Medical Director
Tennessee Managed Care Network
Access...**MedPLUS**

PAW/lcb

Nashville Office
205 Reidhurst Avenue
Suite N-104
Nashville, Tennessee 37202-0205
(615) 329-2016

East Tennessee Regional Office
900 East Hill Avenue
Suite 175
Knoxville, Tennessee 37915
(423) 522-7799 Fax (423) 522-1699

Chattanooga Office
431 E. Martin Luther King Blvd.
Chattanooga, Tennessee 37403
(423) 267-1544 Fax (423) 267-6832

Memphis Office
1835 Union Avenue
Suite 325
Memphis, Tennessee 38104
(901) 726-0027 Fax (901) 726-5445



Optima Health Center, P.C.

An Internal Medicine Practice

Tel. (423) 624-7892

Fax (423) 624-8331

Bernard L. Parham, Sr., M.D. Norma Sparks, PA-C

As your doctor I want to help you stay well. For most health problems, the key is to find and treat the problem early.

A short time ago, you received a letter from Dr. Patricia Weaver, Medical Director of Access Med. Plus, offering you a free mammogram (x-ray of the breast). If you have not already taken advantage of the offer, consider this friendly reminder.

Women remain at risk for developing breast cancer and the chances of that occurring increase with age. Even if that should occur, cancer and other breast problems can be found early by mammography. When found early, it is most likely to be cured.

Access Med Plus is committed to the health of its members and has provided funding so that any female member, age 40 and older can have this test.

Since we have not ordered this test for you this year, call today and make an appointment.

Thank you for your cooperation.

Sincerely,

A handwritten signature in black ink. The signature is fluid and cursive, appearing to read "B.L. Parham, Sr. MD".

Bernard L. Parham, Sr. MD
Primary Care Physician
Access Med. Plus Provider Network Services

Agenda

Promoting Breast Cancer Screening in a Low Income Managed Care Population Project

Intervention Outreach Training Session

Monday, July 12, 1999
10:00 A.M. UNTIL 12:30 P.M.

Tennessee Managed Care Network
431 East M.L. King Boulevard
Chattanooga, Tennessee 37403

Welcome & Introductions.....Mrs. Linda Morris

Attendance & Material Distribution.....Ms. LeMonica Lewis

Training Overview.....Mrs. Tonya Micah

Project Update

Role of the CHORWS

REACH-PROMOTE-ACTION-FOLLOW UP

⇒ **Reaching The Targeted Access Med...PLUS Patients**

- ⇒ Patient Listing
- ⇒ Use Of Additional Resources
- ⇒ Home Visits And Telephone Calls

⇒ **Promoting Mammogram Screening**

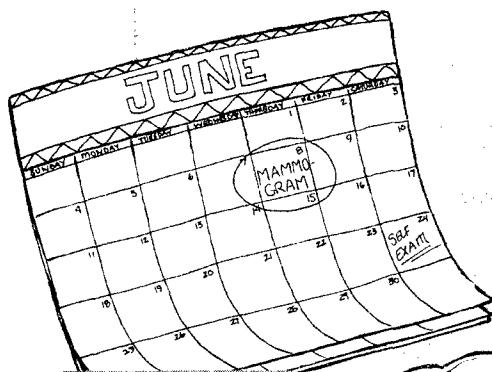
- ⇒ Use Of The Script
- ⇒ Use Of Brochures And Other Educational Materials
- ⇒ Forms To Complete

⇒ **Action & Follow Up**

- ⇒ Checking The Primary Care Physician (PCP) List
- ⇒ Helping The Patient Get A Doctor's Appointment
- ⇒ The Reminder Calendar

Question & Answer Session

Closure & Lunch



Access... **Med PLUS** 

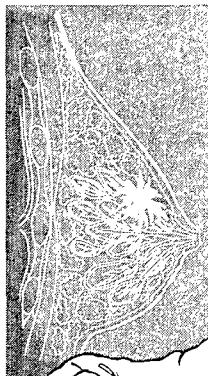
 A Quality Health Plan Your Family Can Trust
Tennessee Managed Care Network

Managed by Medical Care Management Company, MC²

What is Breast Cancer?

It's a group of diseases caused by the growth of abnormal cells in the breast.

These abnormal cells
grow in a lump,
also called tumors.



These abnormal, or cancerous cells can break away from the tumor. They can travel to other parts of the body and form new tumors.



For more information about this booklet, the cancer system, and other aspects of your disease of cancer of the breast, talk to your doctor or health-care provider.

This booklet is not a substitute for an informed discussion between a patient and his or her health-care provider of the procedures or medications described in this booklet.



Because it can affect you.

Each year, about 100,000 people are diagnosed with breast cancer.

in the U.S. About 180,000 new cases are diagnosed each year.

Women have the best chance of surviving breast cancer when it is most treatable.

WHAT CAUSES BREAST CANCER?

In a very small number of cases, it's caused by a defective gene. But in most cases, the cause is unknown.

- diet -- for example, whether eating less fat and more fiber helps prevent breast cancer
- smoking -- whether this known cause of some other cancers plays a role in breast cancer
- alcohol use -- suspected, but not yet proven, to be linked to breast cancer
- exercise -- whether it may help prevent breast cancer in women under 40
- environmental factors -- especially certain pesticides.

It's too early to know for sure if these things affect breast cancer risk.



Exercise and a healthy diet can help prevent heart disease and osteoporosis after menopause.

Experts generally agree that these benefits far outweigh any possible risk of breast cancer, except in women already treated for breast cancer. Ask your health-care provider for details.



What Every Woman Should Know About Breast Cancer

Any woman can develop breast cancer.

Even if you are young, you can still get breast cancer.

Your risk is higher if you:

- 1. are age 50 or over
- 2. already had breast cancer
- 3. have an immediate relative, such as a mother, sister or daughter, who had or has breast cancer
- 4. had early onset of menstruation or late menopause
- 5. never had a child or had your first child after age 30.

Even if you are young, you can still get breast cancer.

But you can:

- 1. Even if you have no risk factors, you can still get breast cancer. In fact, many women who have developed the disease had no identified risk factors.
- 2. Having risk factors doesn't mean you will get breast cancer. But, be aware of your possibly higher risk, and follow your health-care provider's advice.



How to examine your breasts

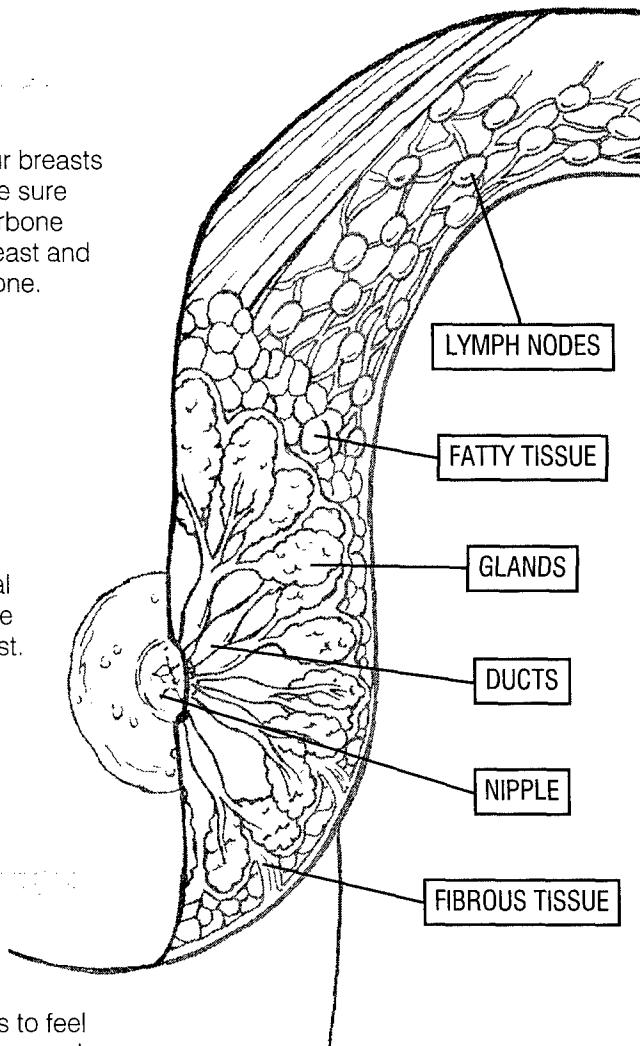
is the first step to good breast care.

For example, you may feel a firm ridge at the lower curve of your breast.

When you examine your breasts (see pages 8 and 9), be sure to check from the collarbone down to below your breast and from armpit to breastbone.

For example, you may feel a firm ridge at the lower curve of your breast.

For example, it's normal to feel a firm ridge at the lower curve of the breast.

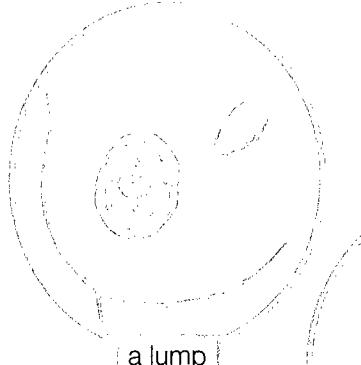


For example:

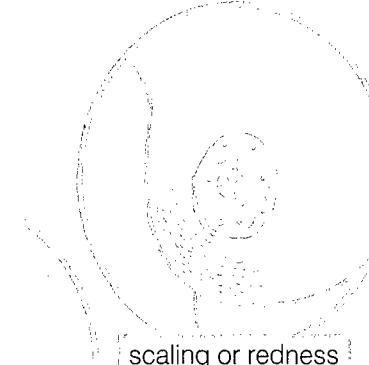
- It's normal for breasts to feel tender or lumpier than usual before or during your period.
- Fibrocystic disease, a common noncancerous condition, can make breasts feel lumpy.

• These are warning signs of breast cancer

You can often spot some of them yourself, including:



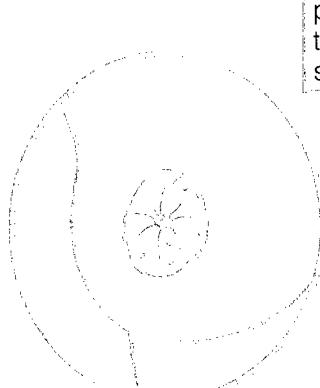
a lump



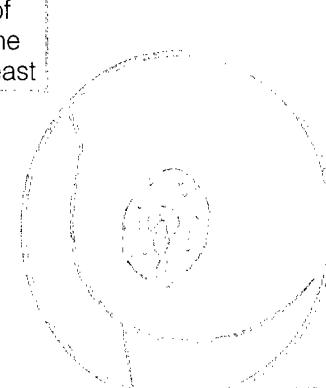
scaling or redness
of the skin



puckering or dimpling of
the skin, or change in the
shape or size of the breast



sunken or pulled-in nipple



any fluid from either nipple

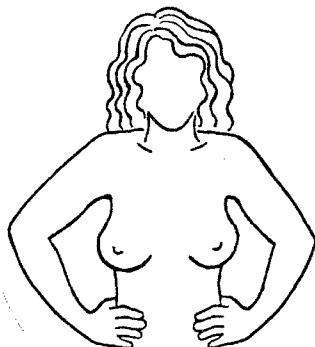
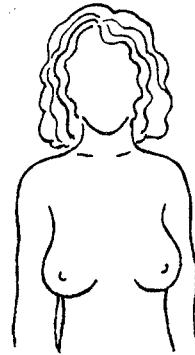
• If cancer or a tumor has been found

There's no way to tell yourself. If you see any change, get medical attention right away. Only a health-care provider can diagnose breast changes accurately and recommend the right treatment.

How to do a self-exam

Do it shortly after your period, when your breasts are least likely to be tender. If you're no longer menstruating, pick the same day each month. Follow these 3 steps:

- Stand with arms at your sides.
- Clasp hands behind your head and press hands forward.
- Press hands firmly on hips and bow slightly as you draw your shoulders and elbows forward.
- Turn from side to side in each of these positions.



What to look for

- any fluid from either nipple
- sunken or pulled-in nipple
- puckering, dimpling, scaling or redness of the skin
- changes in the shape, curves or size of your breasts.

how your breasts normally look and feel. This helps you discover any changes early.

1. Check your breasts

- Put your left hand under your head. Use your right-hand fingers to feel your left breast.
- Start from the outer edge and circle in toward the nipple. (You can also move up and down in rows.) Press firmly in small massaging motions with the pads of your fingers (not the tips). Don't forget the area in your armpit.
- Gently squeeze the nipple.
- Switch sides, using your left hand to feel your right breast.



2. Check for changes

- any lump or thickening that wasn't there before
- any fluid from the nipple.

3. Wash your breasts

Your fingers will glide more easily over soapy skin. This allows you to concentrate on the texture underneath.



Most breast changes are not cancer. But get any change checked out by a health-care provider.

Getting the right kind of breast cancer screening

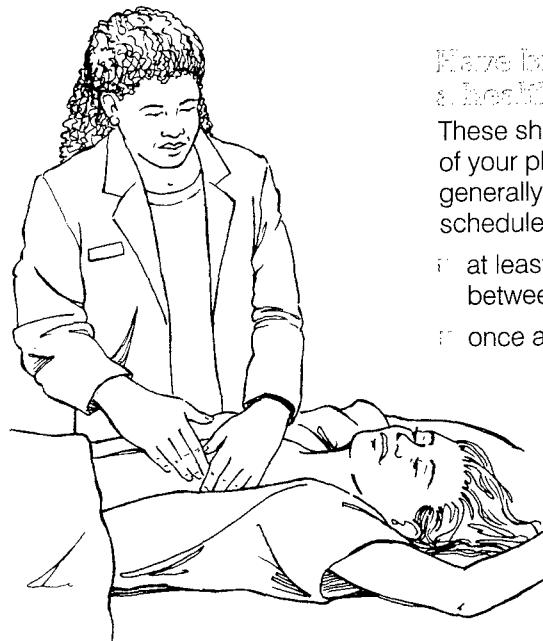
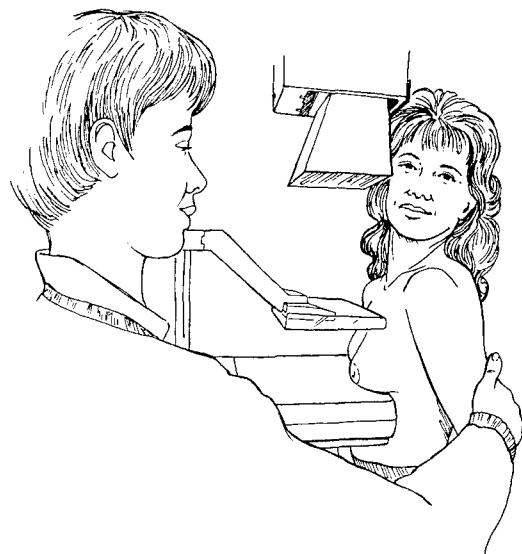
Getting a mammogram

What is a mammogram?

These breast X-rays can find lumps and other changes often before they can be felt. A general guideline is to get a mammogram:

- once between ages 35 and 40 (for later comparison)
- every year beginning at age 40.

Ask your health-care provider what schedule is right for you.



Have breast exams by a doctor - have yourself do

These should be a regular part of your physical exam. The generally recommended schedule for breast exams is:

- at least once every 3 years between ages 20 and 40
- once a year after age 40.

the next step is to get an accurate diagnosis.

Your health-care provider may recommend:

An **ultrasound exam** to double-check the irregularity. This exam is more detailed and takes longer than the routine screening mammogram.

A **biopsy**,

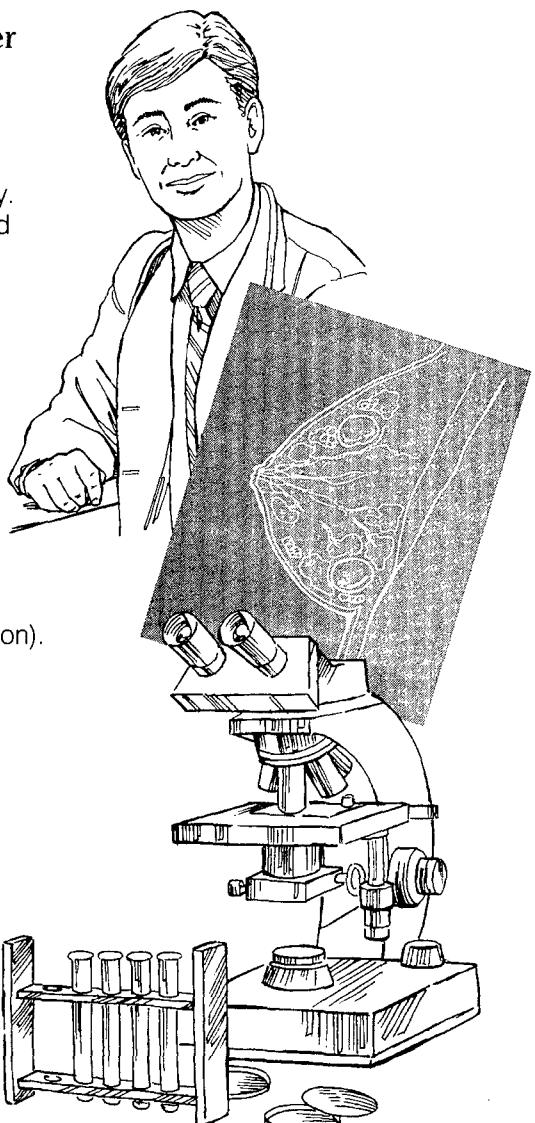
which removes a bit of fluid or tissue from the breast. This can be done:

- by surgery
- with a needle (called aspiration).

The fluid or tissue is studied to see if it is cancerous.

Other **breast exams** may be done,

such as ultrasound or magnetic resonance imaging (MRI).



What are the steps to get an accurate diagnosis?

Treatment for breast cancer

may include one or more of these methods:

Surgery

This may involve:

- a lumpectomy -- taking out the tumor and some tissue around it, but preserving the breast itself
- a mastectomy -- removing part or all of the breast and, in some cases, lymph nodes under the arm.



Radiation therapy

This type of X-ray is often used after surgery to kill any remaining cancer cells in the breast area.

Chemotherapy

The patient takes special drugs that kill or stop the growth of cancer cells that may have left the breast area.

Hormone therapy

The patient takes drugs or, less often, has surgery to change the body's hormones. This discourages the growth of cancer cells.

Immunotherapy and bone marrow transplants

For example, immunotherapy and bone marrow transplants are being tested.

Reconstruction after mastectomy

Rebuilding the breast after a mastectomy may be an option. The reconstruction may take place at the same time the breast is removed, or months or years later. Ask your health-care provider for details.



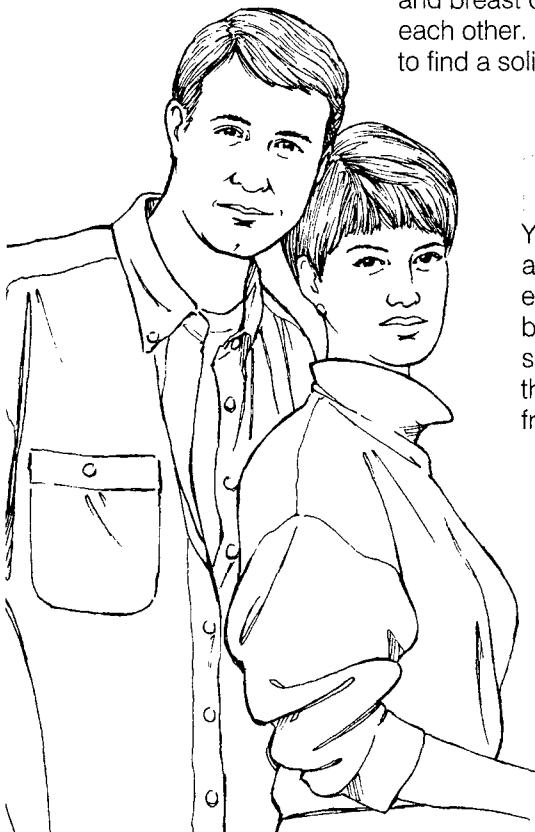
• Cancer: Causes, Symptoms and Treatment

• Second cancer: What is it? What are the symptoms?

It may. It depends partly on what type of cancer it was, how advanced it was and what type of treatment was used. Like the original cancer, the earlier a second one is found, the better it can be treated.

• The link between the pill and breast cancer

Studies on the link between the pill and breast cancer often contradict each other. More research is needed to find a solid answer.



• Men and breast cancer

Yes, but it's very rare. There are about 1,400 new cases in men each year in the U.S. As with breast cancer in women, warning signs include lumps, changes in the way nipples look and fluid from the nipples.

These organizations can give you facts about breast cancer, offer support and refer you to local sources of help:

1-800-ACS-2345
(1-800-227-2345)

1-800-4-CANCER
(1-800-422-6237)

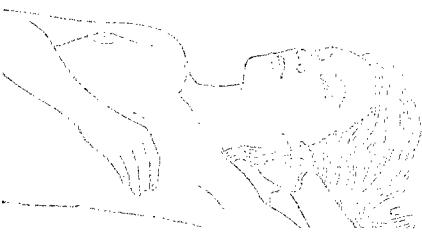
1-800-719-9154

1-800-I'M AWARE
(1-800-462-9273).



• **Check on the safe choices you can make.**

Get a breast self-exam every month.

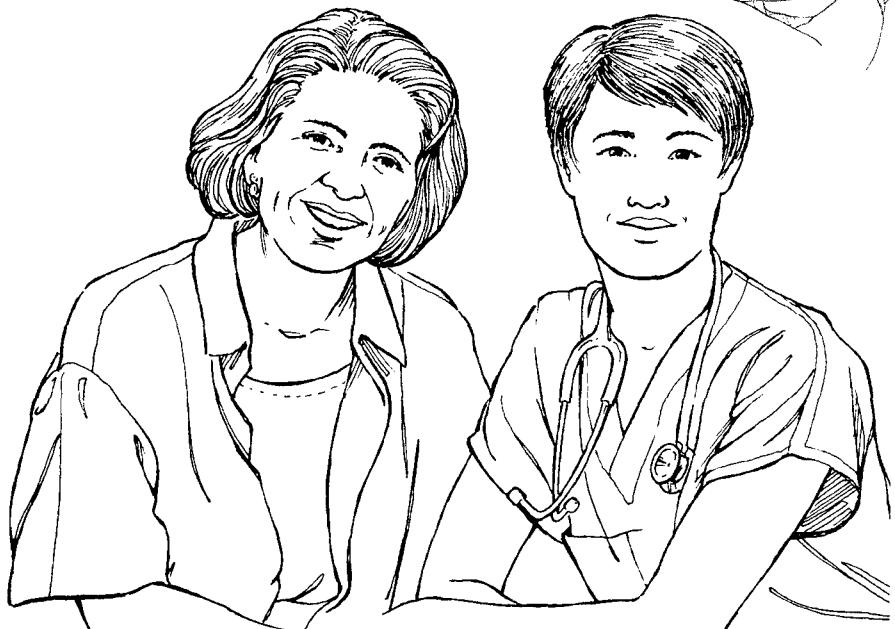


Get a mammogram as often as your health-care provider recommends.

See your health-care provider for breast exams.



Stay informed about breast cancer research.



Your health is in your hands!



Access... **Med PLUS**



A Quality Health Plan Your Family Can Trust

Tennessee Managed Care Network

205 Reidhurst Avenue, Suite N-104

Nashville, Tennessee 37202-0205

1-800-523-3112



Promoting Breast Cancer Screening in a Low Income Managed Care Population

DOD Level 3 Intervention Script

Purpose: To successfully reach Access MedPLUS female members 40 years and older who have not had their annual mammogram that are listed for comprehensive breast cancer screening prevention.

To be used by: Community Health Outreach Workers and other health professionals assigned to this task.

Caution: This must be utilized as a guide for reaching and teaching the Access MedPLUS members with the breast cancer screening mammogram messages. It should never be read verbatim because each situation will be slightly different. However, this resource has been developed to ensure that generally, the subjects will be hearing basically the same message.

General Intervention Script

Hello (member's name), my name is (CHORW's name). I am a member of the Access MedPLUS Community Health Outreach Worker team. Access MedPLUS has a strong commitment to the quality of your health care. One of the ways we express this commitment is by assisting our members such as yourself to protect your health by taking certain preventive measures. (Member's name), based on the American Cancer Society's recommended guidelines, it is time to schedule your mammogram. The American Cancer Society suggests that women 40 years and older should have a mammogram yearly. You should have received letters recently from Access MedPLUS and your health care provider encouraging you to have this test.

The mammogram is simply an x-ray of the breast that helps to locate lumps, if any, in the breast. Most of these lumps are harmless, but occasionally such a lump could be cancerous. If so, the mammogram can help to find the problem early when breast cancer can be more easily treated.

Regular mammogram screenings can help to find cancer as early as two years before you or your doctor will be able to feel a lump. The earlier you find breast cancer the better your chances will be to save your breast and your life. The cost of the test is completely covered by Access MedPLUS. It only takes about 15-20 minutes to have a mammogram. Remember (member's name), you can have breast cancer and be feeling just fine. You may have symptoms but this not always the case. Some women have no symptoms until the cancer has spread. This is what we want to help you avoid. It's a fact that one in nine American women will develop breast cancer over the course of her life. But unlike it used to be, finding and treating breast cancer does not automatically

mean the loss of your breast or your life. When found early breast cancer is being successfully treated in the majority of cases. Getting your mammogram will give you the assurance that you have taken the easiest and most effective step to protect yourself from breast cancer.

Now, let's get you scheduled for your test. Would you like me to assist you with setting up your appointment?

If yes:

Take the usual steps taken in assisting members with this request.

If no:

(Inquire about the member's concerns or objections. Try to resolve any misunderstanding and misinformation so that the member will be willing to schedule her mammogram.)

When will you be able to call and schedule your appointment? Once you schedule your appointment, please call me and let me know when you are planning to go. If you need transportation or are unsure of the location, remember you can either call the place where the mammogram test is scheduled or you can call me for help. Here is my card, again, my name is (CHORW's name). I am glad you have decided to get this important test done. Thank you for allowing me to share this information with you.

Barriers and Common Objections

"Fear of what the test may find" -

Response: Most mammogram reports are good news. Of the lumps that the test finds, 85% of those will not be cancer. But if it is cancer, the mammogram can help to discover it early when the disease can be most easily treated.

"I believe if I had something like cancer I would know it" -

Response: In the early stages of breast cancer there are usually no symptoms. Unlike other diseases, cancer like high blood pressure can be present a long time before you begin to feel ill. It is better to go and be checked out just in case.

"Cancer or breast cancer does not run in my family (lack of family history)" -

Response: In the majority of breast cancer cases, there is no family history of the disease. This does not mean there is actually no history of the disease, it simply means either it was not discussed, shared or recorded. Only recently have women become more open to discuss breast cancer. It has historically been a disease that women have not felt comfortable to discuss.

"I heard a mammogram is painful" -

Response: For some women the test is uncomfortable. The discomfort occurs when the breast is gently pressed down so the mammogram machine can get a good quality view of the breast. The pressure on lasts a few minutes while the picture is being taken. It is a good idea to have the test done after your menstrual, when the breast are not as tender. You can expect the discomfort to stop as soon as the image or picture is taken. The benefits of having your mammogram will far out weigh the momentary discomfort you may feel during the test. Remember only a few women report discomfort, most women describe it as simply a lot of pressure. If during your mammogram you are too uncomfortable, simply tell your nurse, and she can usually make the appropriate adjustments. If you know you are really sensitive, you may want to take a mild pain reliever about an hour before the mammogram appointment.

"I've heard x-rays can cause cancer" -

Response: The amount of radiation you will receive during your mammogram will be less than taking an air plan from here to Chicago. It is a low radiation test. The risk of health problems related to mammogram is extremely low.

Promoting Breast Cancer Screening in a Low Income Managed Care Population

Intervention Guidelines & Procedures

REACH	TEACH
<p><u>Home Visits</u></p> <p>Whenever possible provide a home visit with the member/patient to promote breast cancer screening. This should be the primary method of reaching the designated members/patients. If the address is incomplete check with Access Med...PLUS member services to verify if additional information is available.</p>	<p>What Every Woman Should Know About Breast Cancer</p> <ul style="list-style-type: none">⇒ Who's At Risk⇒ The Risk Factors⇒ Warning Signs⇒ Value Of Early Detection⇒ The Benefits Of Routine Mammogram Screening
<p><u>Telephone Calls</u></p> <p>When it is not practical or safe to conduct a home visit, check both your provided list and the local telephone directory to see if the patient/member has a telephone number listed. Outreach attempts by telephone should be documented thoroughly with the activity form. Make sure to note that the attempt is by telephone.</p>	<p>DIFFUSE</p> <p>Widely Held Beliefs and Myths About Breast Cancer</p> <ul style="list-style-type: none">⇒ Family History⇒ No symptoms⇒ Too old⇒ No hope for survival if breast cancer strikes
<p><u>Two Is The Limit</u></p> <p>Two home visit attempts is the limit before moving on to your next lead. It is essential that each patient/member is given an opportunity to be provided with the information/invitation regarding mammography screening. Please use your discretion regarding the number of telephone attempts conducted.</p> <p><i>Remember to complete your activity form for each attempt. Make sure you include all the requested information.</i></p>	<p>DISTRIBUTE</p> <p>Breast Health Brochure and Your Business Card</p>
ACTION	FOLLOW UP
<p>Offer to help the member/patient with setting her doctor's appointment. Verify where the patient receives her care.</p> <ul style="list-style-type: none">⇒ If the patient/member is willing to have the appointment set by you, please do so.<ul style="list-style-type: none">⇒ Write the patient's appointed time on the provided calendar and on the back of your business card.⇒ If the patient seems resistant, try to identify the barrier or concern.⇒ If the patient flatly refuses to schedule a mammogram encourage her to share her reasons and document the response on your activity form.<ul style="list-style-type: none">⇒ No further intervention needed.	<ul style="list-style-type: none">⇒ Ask the member/patient to let you know when the appointment has been set if she is personally setting her appointment.⇒ If you have set the appointment plan to send a reminder post card or if a telephone number is available jot yourself a note to place a reminder call the day previous to the appointment.⇒ Include the member/patient's appointment time on the activity form.⇒ <i>Remember to submit all original activity forms to your coordinator weekly. It is essential to the success of the project that all original paperwork be forwarded back to the research staff</i>

Member Outreach Activity Form
Promoting Breast Cancer Screening In A Low Income
Managed Care Population

Home Visit
of previous home visit attempts

Telephone Call
of previous telephone call attempts

Date/Time AM (or) PM

Name: _____ Address: _____ City: _____ Zip Code: _____
Phone #: () _____

Member #:

Please complete if different from above:

Name: _____ Address: _____ City: _____ Zip Code: _____
Phone #: () _____

Currently with Access Med Plus: Yes No

This is the First or Second Attempt to reach this member

Member has been reached: Yes No

Outreach materials distributed: Yes No

Member has agreed to contact their PCP for a mammogram: Yes No

Member reached but declined outreach because:

- Not Interested
- Recently had a Mammogram
- No Longer with Access MedPlus
- Sick or Caring for a Sick Person
- Lack of Time
- Afraid to Discuss Breast Health/Mammograms
- Other

Member was not reached because:

<input type="checkbox"/>	Not at Home	<input type="checkbox"/>	Wrong telephone #
<input type="checkbox"/>	Moved	<input type="checkbox"/>	Telephone # Disconnected
<input type="checkbox"/>	Wrong Address	<input type="checkbox"/>	No Answer
<input type="checkbox"/>	No Physical Address	<input type="checkbox"/>	Changed to Unlisted #
<input type="checkbox"/>	Language Barrier	<input type="checkbox"/>	Deceased
<input type="checkbox"/>	Out of Territory		
<input type="checkbox"/>	Other		

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Difficulty in Reaching Low Income Women for Screening Mammography

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Abstract

Low-income women have a high mortality from breast cancer. Yet they participate in breast cancer early detection screening programs less than women in the general population. An intervention study to improve screening mammography rates of low-income women participating in Tennessee's TennCare program (State Medicaid and Medicare Program) revealed significant barriers to reaching these women. Intervention methods included mail, telephone calls and home visits.

Results indicate that only 38% of the women could be contacted for a baseline survey. Reasons for non contact included: absence from home (39%); having moved (22%); refusal to participate (17%); having no physical domicile (15%); language barriers (4%); and miscellaneous other factors (4%). Women with telephones tended to have a relatively higher economic status and were more successfully reached than women without telephones. These findings provide useful insights for future program planning and research design.

Keywords: screening mammography, low income, managed care barriers and reaching underserved

Breast cancer is a major source of morbidity and mortality (1,2). Low income women in general are at higher risk of dying from this disease than more affluent women (3-8). Breast cancer is the most common cause of cancer deaths among women aged 40 to 55, and the second leading cause of cancer deaths in all women (1). As one in every eight women in the United States will develop breast cancer by age 85 (2), it is crucial to detect this disease at its earliest possible stage to reduce morbidity, mortality and social burden of this major problem.

Breast cancer represents 30 percent of cancer deaths among Tennessee women. While the incidence or number of new cases per 100,000 population is higher among white women, African American and Hispanic women die at higher rates (9). Yet, breast cancer *deaths*, like those of cervical cancer, are among the most preventable when proven early detection and treatment modalities are employed as recommended. Screening mammography, the most effective method for early breast cancer detection is more underutilized by low income women, including African Americans, who often present at more advanced stages of disease (10-12). A recent study of the utilization of screening mammography by Medicare-covered elderly women in three regions of the United States demonstrated that African American women obtaining mammograms at the same rate as white women were diagnosed at equally low stages as their white counterparts (13). Unfortunately, however, low income women experience multiple barriers which may prevent them from participating in disease prevention activities in general (14-17). Many barriers to participation in breast cancer screening and early detection have been documented among this population (18-29). They are less likely to have had a recent physician visit to have breast or cervical exams, or to have had a screening mammogram ordered when seen (20). They are more likely to be inhibited by barriers to health care utilization and prevention, including factors such as lack of knowledge (21-27), lack of access to available

services (23-25, 29), lack of availability of services (25, 27) economic constraints (24-25, 29), physical and co-morbid conditions (22); and a lack of physician compliance (22, 29). Many of these factors are associated with low income and often serve as a surrogate for other barriers.

In our study of strategies to increase screening mammography in low-income women who are members of a Managed Care Organization (MCO), investigators found not only low levels of participation, but also encountered extreme difficulty in contacting the targeted women for the outreach activities and planned intervention. In this report, we analyze and chronicle the difficulties, highlighting the scope of the problem and making suggestions for overcoming these difficulties.

Methods

This study is a part of ongoing research to test intervention strategies to improve the rate of breast cancer mammography screening among low-income underserved populations. This research targets women who are members of the TennCare program. TennCare is the State of Tennessee's health care finance reform program that superseded Medicaid in 1994. TennCare members include women and families up to 200% above the poverty level. For example, a maximum annual income of \$31,200 makes a family of four eligible for membership benefits. As well, uninsurable individuals are eligible to buy into the program.

Eligibility:

The target group of women was selected from those who satisfied all the following criteria: 1) women aged 40 and above and enrolled in the TennCare program; 2) member of the Access MedPlus managed care organization; 3) non compliant with screening mammography for one year prior to the study according to TennCare mammogram claims data; and 4) resident of Davidson County. Davidson County was selected for outreach activities where Access MedPlus

has a team of Community Outreach Workers who are committed to this project.

Sample:

A sample of 362 women was randomly selected from a pool of 899 women in the target group to conduct a baseline survey and preliminary outreach activities. These activities were carried out between July and September 1997. A total of 139 (38%) were reached and completed the survey.

Interview process:

Permission for gathering patient information was obtained from the TennCare Bureau, Medical Director and Health Services Committee of Access-MedPlus, as well as from the Meharry Medical College Human Subject Review Board. Informed consent was obtained from all participating women.

The data were gathered by telephone and/or home visits. Health Outreach Workers collected information pertaining to obstacles during their home visits. The Community Health Outreach Workers were supplied by the MCO and trained by a Health Educator-Coordinator associated with our program. In particularly difficult situations, investigators assisted with outreach. This report addresses the obstacles encountered in this outreach.

Statistical Methods:

Key variables

Primary outcome variable: Successful Attempt - count of completed interviews.

Independent Variables.

Attempt - number of trials made by Community Health Worker using the telephone and/or visiting the residence of the subjects.

Telephone ownership - subject has a registered working phone number recorded in the MCO profile. The phone is being used to reach her.

Race - reported by the subject during an interview and/or recorded in the profile of Access MedPlus.

Reason - causes for not being reached by the Community Health worker and/or incomplete interview.

Income and Age - reported by subjects reached and/or gathered from the MCO profile.

Education Level - number of years of school attendance as reported by the subject.

The data describe the number of attempts made to reach the women and factors associated with reaching them. Data were entered into the spreadsheet of MS Excel and processed using the SPSS program. To test the differences where appropriate, χ^2 or Z test were used. A conventional p value of 0.05 for a significance level using a two tailed method was applied.

Results

Socio-Demographic Factors

There were two population groups on which socio-demographic data were gathered (Table 1) - the MCO population on which a data profile was available (target group, n=362), and the sample of the target group reached by our efforts (sample reached, n=139). For target and sample populations, mean age in years (\pm SD) was similar (53 ± 9.4 vs 53 ± 8.2) while age distribution was somewhat similar. Telephone ownership was higher in the sample than in the target group (51% vs 39%), supporting our finding that having a telephone was an important factor in reaching the sample.

Of the 362 women in the target group, 47% were blacks, 48% were whites, and 5% were other races; while of the 139 women in the sample, 52% were blacks, and 48% were whites. Distribution of household income was similar between blacks and whites. The samples were different by mean age in years (51 ± 7.8 vs 55 ± 8.1 ; $p < .001$); mean years of education ($11.2 \pm$

2.2 vs 9.8 ± 3.1 ; $p < .001$); and by age and education distribution, as well as marital status.

There were twice as many black as white women in the 40-49 year group; about half as many blacks as whites were married, while five times as many were single; and almost twice as many whites as blacks had an education level of less than 12 years, while twice as many blacks as whites had an education level of 12 years. All women had low incomes, and approximately half of the sample of blacks and whites were from households with annual incomes of less than \$5,000.

Telephone Ownership:

A higher percent of white women in the target group had a telephone (47%) compared to African American women (32%) (Table 1). Of the telephone numbers provided by these women, approximately 50% were inaccurate or not useful. Thus only 19% of women in this population of low-income women were reachable by telephone. An average of 4 attempts had to be made to reach these women. Reasons for non-contact by telephones included the following: 1) telephone numbers given were those of relatives or friends; 2) telephones were disconnected; 3) previous work telephone numbers were given; 4) no answer was obtained after several rings and several tries and 5) the person had moved without a forwarding number.

Personal Home Visits

Six hundred and eleven attempts were made to contact the target population of 362 women (Table 2). Home visits were attempted after initial non-contact by telephone. When no telephone number was provided, home visits were made by Community Health Outreach Workers (CHOW) who made three additional attempts. Some visits were made on Saturday morning and during evening hours to increase the rate of contact.

One hundred and thirty nine (139) surveys were completed. Table 2 indicates the effort

needed to reach the 139 women. From the initiation of the effort, attempts ranged from 1 to 5 with an overall average number of 4.4 attempts per successful contact (Table 2). However, the vast majority (90%) of subjects successfully reached were contacted on the initial attempt. The average number of attempts for each success was 1.8 attempts for this subgroup (Table 2). In contrast, women requiring multiple attempts were unlikely ever to be reached. Table 3 classifies successes by age, race and telephone ownership. There was a significant difference by race and telephone but not by age. Table 3 reveals that the variables important in terms of reaching subjects include having a telephone number ($p < .0001$) and race ($p < .002$). Forty three percent of white women and 38% of African American women were reached by all efforts (Table 3).

Because it was not possible to know the actual socioeconomic status of those women not contacted, telephone ownership was used as a surrogate measure. A direct correlation between telephone ownership and income levels of women who were reached is shown in Fig. 1 ($r = 0.8$). In Table 1 is outlined telephone ownership by race. It is of interest that a larger proportion of white women had telephones compared to African American women (47% vs. 32%). However, the gap was narrowed in the sample reached, indicating the importance of the telephone in reaching these women. Finally, reasons for not being reached are displayed in Table 4 by race and age. Reasons for contact difficulties include: 1) no one at home (39%); 2) having moved (22%); 3) refusal to participate (16%); 4) no physical address (15%); 5) language barrier (4%); and 6) miscellaneous other reasons (4%).

Discussion

Low-income women are known to be at risk for poor outcomes of breast cancer mortality compared to more affluent middle class women (4-6). It is documented that this poorer outcome is related to late stage of diagnosis and reflects the relatively low use of screening mammograms

and clinical breast exams by these women. Barriers which are found to be associated with a lack of screening participation include: 1) older age; 2) low education level; 3) no health insurance coverage; 4) work obligations; 5) a lack of transportation; 6) institutional and physician barriers; and 7) cultural and knowledge/attitudinal factors (10-17). Since the 1992 mandate by Congress for Medicare coverage of eligible women 65 years and over, there has been an increase in mammography use by these women (26). However, Rimer et al. have found that a lack of physician recommendation is a major cause of non-participation in screening mammography (27). Other factors of importance have included attitudes related to cancer and the efficacy of its prevention and treatment. Several reports state that black women have a negative and/or fatalistic view of cancer and tend to have an external locus of control (28), while Hispanic women experience barriers such as language, culture and a lack of knowledge (29).

Among TennCare women, coverage is provided for screening mammography at 40 years of age and above. Yet, the rate of mammography use is only 25 percent (30). Having a usual source of care is known to be associated with increased screening rates and many women state that they would obtain a screening mammogram if recommended by their doctor. Yet assignment of women to a primary care physician in TennCare does not seem to have been effective. It appears that many of these women do not have encounters with their primary care physicians – in spite of insurance coverage and their stated behavioral intentions. They therefore, may have had no opportunity to be counseled about breast screening recommendations.

Our experiences indicate that it is difficult to reach these women. Even when Community Health Outreach Workers were sent to their recorded place of residence, only 38% could be contacted. In fact, 22% had moved since initial sign up to TennCare within the past

three years and in fact no physical domiciliary structure existed at the stated address for nearly 15 percent of those women when home visits were attempted. Language was not a major barrier in this study because of the ethnic composition of the population. Women were usually cooperative when contacted; however, twice as many white as African American women refused to respond when reached.

Conclusion

Lack of a telephone, as a specific logistic barrier, is a novel finding of our study. A major obstacle to the use of screening mammography and other preventive services among poor women appears to be the lack of a stable or permanent address, probably due to a tendency for these low income women to move, and a lack of a means of easy communication such as by private telephone. This again may indicate a significant amount of instability in their lives and a difficulty in obtaining basic life requirements such as food, clothing and shelter. It indicates that many of these women are indeed struggling to live. According to Dr. Harold Freeman, Chairman of the President's Cancer Panel, poverty means not having many choices (4, 6). The poor have to prioritize their needs within their limited resources. In such a setting, more immediate and critical needs are of more concern than prevention and monitoring of health problems which may become serious problems only in the future.

If these women are to be reached in order to enable early detection of breast cancer and prevention of mortality, a more holistic approach to this life problem must be taken (31). Such intervention will require integration of information about the risks and benefits of cancer and other illness prevention behavior. A multifaceted approach includes the use of outreach workers, the use of peers, and social campaigns to overcome barriers. The provision of more global opportunities for these women and their families to move out of the poverty cycle is the true

challenge, and would likely have the greatest effect on these women's behavior and on their futures (31).

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Table 1: Number of Attempts and Survey Success

Attempts Per Subject	Number of Subjects	Percent	Number of Attempts	Successful Attempts	Number of Attempts Per Success
1	222	61.3	222	125	1.8
2	44	12.2	88	6	14.7
3	85	23.5	255	4	63.8
4	9	2.5	36	3	12.0
5	2	0.5	10	1	10.0
	362	100	611	139	4.4

Table 2: Successful Attempts by Age, Race and Telephone Ownership

	Number of Subjects	Success		P-value
		N	%	
Age				
40-64	319	128	40.3	
65+	43	11	25.6	.065
Race				
Black	169	72	42.6	
White	175	67	38.3	
Other	18	0	0.0	.002
Telephone				
Yes	140	71	50.7	
No	222	68	49.3	.000
Total	362	139	38.4	

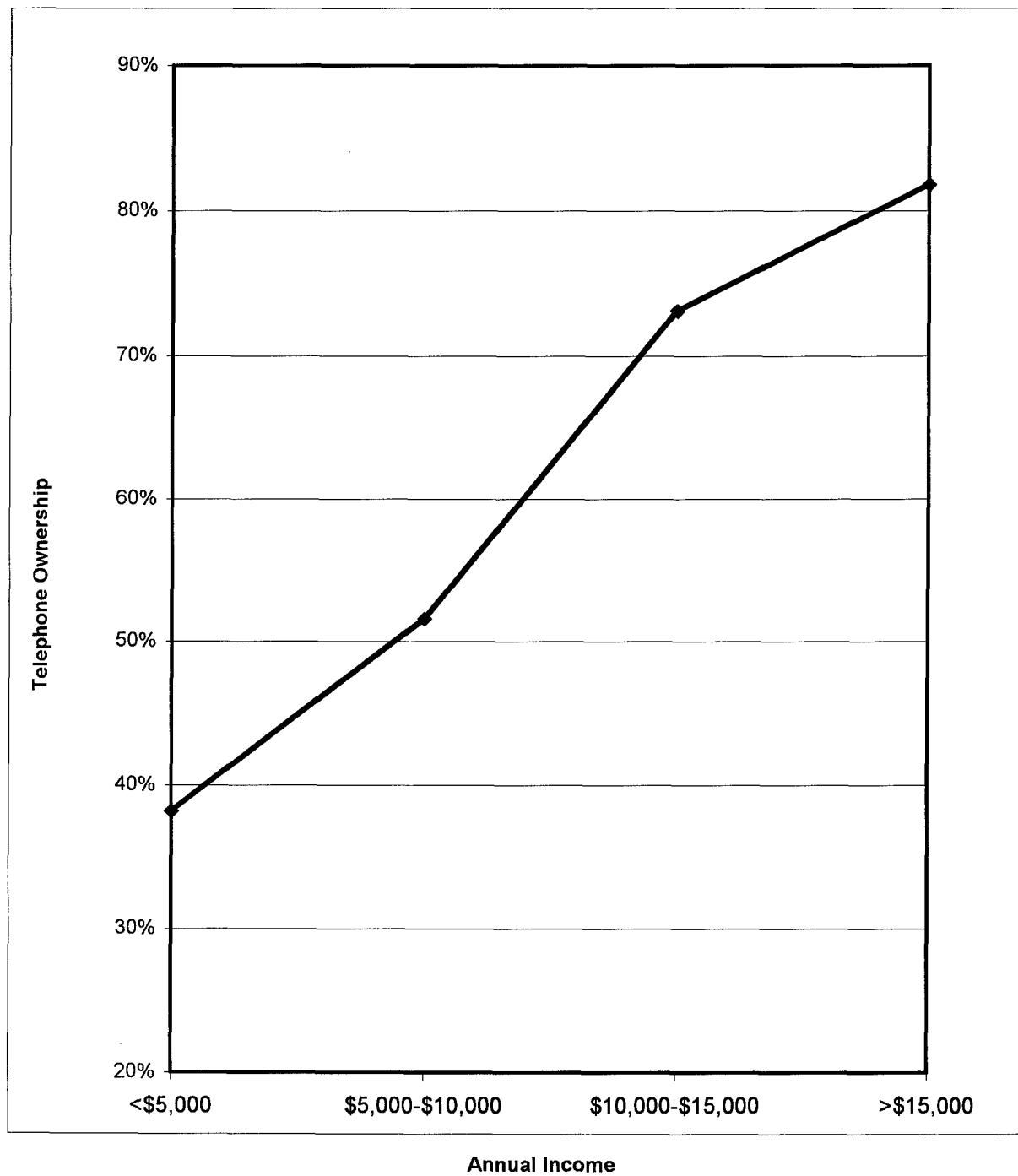
Table 3: Telephone Ownership by Age, Race, Income and Marital Status

		Number of Subjects	% With Telephones
Age	40-64	319	39.2
	65 and over	43	34.9
	Total	362	38.7
Race	Black	169	32.0
	White	175	46.9
	Other	18	22.2
	Total	362	38.7
Income	Up to 5,000	55	38.2
	5,001 to 10,000	31	51.6
	10,000 to 15,000	26	73.1
	Over 15,000	11	81.8
	Total	123	51.2
Marital Status	Married	34	70.6
	Single	28	64.3
	Divorced	24	50.0
	Separated	17	35.3
	Widow	31	32.3
	Total	134	52.2

Table 4: Reasons for not Being Reached by Race and Age

Reasons	All Subjects			RACE			AGE			
	N	%	N	%	White	Others	N	%	N	%
Not at Home	87	38.8	50	51.1	34	31.5	3	16.7	76	39.6
Moved	50	22.3	23	23.5	24	22.2	3	16.7	43	22.4
Refused to respond	37	16.5	10	10.2	24	22.2	3	16.7	32	16.7
No physical address	33	14.7	12	12.2	20	18.5	1	5.0	27	14.1
Language barrier	8	3.6	1	1.0	0	0.0	7	39.0	7	3.6
Other reasons	9	4.0	2	2.0	6	5.6	1	5.0	7	3.6
Total	224	100.0	98	43.8	108	48.2	18	8.0	192	85.7
									32	14.3

**FIGURE 1: Distribution Of Telephone Ownership
Versus
Annual Household Income**





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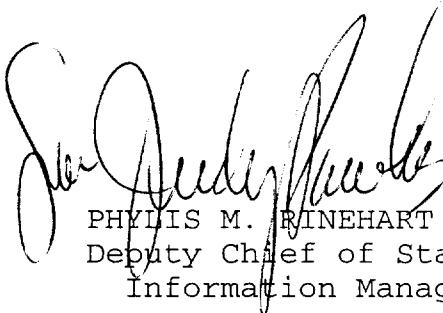
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